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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/521,027	11/18/2005	Gordon Shanthakumar Rajendram	JAMES57.004APC	6567

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EXAMINER
HURST, JONATHAN M

ART UNIT	PAPER NUMBER
4153	

NOTIFICATION DATE	DELIVERY MODE
08/20/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/521,027	RAJENDRAM ET AL.	
	Examiner	Art Unit	
	JONATHAN M. HURST	4153	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *21-38* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *21-38* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *1/11/2005* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *04/07/2005 and 10/24/2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 28 is objected to because of the following informalities: Claim 28 recites the method "wherein mechanical processing of the compound homogenizes the compound" which renders the claim unclear. It is suggested to change "wherein mechanical processing of the compound homogenizes the compound" to "wherein the mechanical processing of the compound homogenizes the compound" Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 21, 22, 25, 26, 28-34, 36, and 37 are rejected under 35 U.S.C. 102(b) as being anticipated by Kamarei et al. (US 4,776,173).

Regarding claim 21 Kamarei et al. discloses:

A compound preparation method (See Abstract) characterized by the steps of:

cooling the compound to increase its rigidity, and (See C 3 L 35-39)

mechanically processing the compound to render the compound into a plurality of particles or components of substantially the same size. (C 4 L 22-40)

Regarding claim 22 Kamarei et al. includes all the claim limitations as set forth above as well as the method, further characterized by the additional subsequent step of subjecting the rendered compound to an analysis and/or reaction process. (See Abstract where further reaction is extraction of desired substances)

Regarding claim 25 Kamarei et al. includes all the claim limitations as set forth above as well as the method wherein the compound is cooled using a cooling agent. (See C 3 L 59-68)

Regarding claim 26 Kamarei et al. includes all the claim limitations as set forth above as well as the method wherein the compound is immersed in the cooling agent to cool the compound and increase the compounds rigidity. (See C 3 L 65)

Regarding claim 28 Kamarei et al. includes all the limitations above as well as a compound preparation method as claimed in claim 21 wherein mechanical processing of the compound homogenizes the compound. (See C 4 L 22-26)

Regarding claim 29 Kamarei et al includes all the claim limitations as set forth above as well as the method wherein the mechanical processing of the compound renders the compound into a plurality of distinct particles of substantially the same size. (See C 4 L 36-48)

Regarding claim 30 Kamarei et al. includes all the claim limitations as set forth above as well as the method wherein the compound is mechanically processed using at

least one rotating blade. (See C 4 L 22-26 where Waring blender contains a rotating blade)

Regarding claim 31 Kamarei et al includes all the claim limitations as set forth above as well as the method wherein the compound is an organic compound. (See Abstract)

Regarding claim 32 Kamarei et al. includes all the claim limitations as set forth above as well as the method wherein the compound is formed from or includes plant tissue. (See Abstract)

Regarding claim 33 Kamarei et al. discloses:

A compound preparation apparatus which includes a cooling means adapted to cool the compound to increase the compound's rigidity, and a mechanical processing means adapted to mechanically process the compound to render the compound into a plurality of components of substantially the same size. (See Abstract)

Regarding claim 34 Kamarei et al. includes all the claim limitations as set forth above as well the apparatus wherein the cooling means is adapted to supply a cooling agent to cool the compound and increase the compound's rigidity. (See C 3 L 35-68)

Regarding claim 36 Kamarei et al. includes all the claim limitations as set forth above as well the apparatus wherein the mechanical processing means includes at least one blade adapted to rotate to mechanically process a compound.(.(See C 4 L 22-26 where Waring blender contains a rotating blade).

Regarding claim 37 Kamarei et al. includes all the claim limitations as set forth above as well the apparatus which includes a flushing means adapted to flush gas from

within the mechanical processing means.(See C 4 L 29-36 where vent is a gas flushing means)

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kamarei et al. (US 4,776,173) as applied to claims 21,22,25,26, 28-34, 36, and 37 above, and further in view of Johnsen et al. (US 5,605,841).

Regarding claim 23 and 24 Kamarei et al. discloses all the claim limitations as set forth above as well as analysis of the compound following processing. (See Kamarei C 6 L 44-55) Kamarei et al. further teaches the preparation of pharmaceutical, food, and

other consumer products which require the routine analysis of a sample's individual components. (See Kamarei C 6 L48-55) Kamarei et al. does not specifically disclose analyzing a prepared sample's constituent components using a near infra-red spectrophotometer.

Johnsen et al. teaches the method, wherein the compound is prepared prior to an analysis process used to investigate the compound's constituent components using a near infra-red spectrophotometer. (See Johnsen C 1 L 46-49 where analyzer based on so-called NIR principle is a near infra-red spectrophotometer) Johnsen et al. further teaches that the compound is biological and processed into smaller portions prior to analysis. (See Johnsen C 1 L 10-15)

Kamarei et al. and Johnsen et al. are analogous because both references teach the reduction of biological material into smaller pieces for further processing and analysis.

It would have been obvious at the time of invention to one of ordinary skill in the art to analyze the components of the biological sample of Kamarei et al. with the near infra-red spectrophotometer described in Johnsen et al. because doing so provides an effective and efficient way of analyzing a homogenized biological before or during comparative analytical and preparative research as described in Kamarei et al. (See Kamarei et al C 6 L44-47). A near infra-red spectrophotometer also provides a means for one of ordinary skilled in the art to determine the amount of solvents and reagents to be used for the extraction of substances from a biological sample. (See Kamarei et al C 11 L 44-52)

7. Claims 27 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kamarei et al. (US 4,776,173) as applied to claims 21,22,25,26, 28-34, 36, and 37 above, and further in view of Doyle et al. (US 6,399,393).

Regarding claims 27 and 35 Kamarei et al. discloses all the claim limitations as set forth above including using liquid-immersion freezing as well as the use of carbon dioxide to render a sample brittle for mechanical processing. Kamarei et al. does not specifically disclose the use of liquid carbon dioxide as a means of performing this freezing.

Doyle et al. discloses the method and apparatus wherein the compound is cooled using liquid carbon dioxide and reduced into smaller particles. (See Doyle et al. C 3 L 56-67)

Kamarei et al. and Doyle et al. are analogous because both references relate to the use of a liquid to cool a compound to render it brittle and ridged before blending into smaller particles.

It would have been obvious to one of ordinary skill in the art at the time of invention to make rigid the brittle biological sample to be mechanically processed in Kamarei et al. with the liquid carbon dioxide for rendering an object brittle before mechanical processing in Doyle et al. because liquid carbon dioxide fulfils the need for a safe, non-toxic, and non-flammable medium for rendering a compound rigid as well as provides a way of carrying out the liquid-immersion freezing described in Kamarei et al.

(See Kamarei C 3 L 59-65 and C 4 L 4-9)

8. Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kamarei al. (US 4,776,173) as applied to claims 21,22,25,26, 28-34, 36, and 37 above, and further in view of Heid et al. (US 5,974,811)

Kamarei et al. discloses all the claim limitations as set forth above but does not disclose a flushing means which include a fan or heating element.

Heid et al. teaches where a flushing means includes at least one fan and/or heating element combination. (See Heid Abstract and Figure where element 20 is a fan)

Kamarei et al. and Heid et al. are analogous because both references teach the exchange of gas space in a cooled chamber where mechanical processing takes place.

It would have been obvious to one of ordinary skill in the art at the time of invention to combine the suction device for cooled microtomes in Heid et al. with the compound preparation apparatus in Doyle et al. because Doyle et al. expresses the need to purge the apparatus with a gas and Heid et al. provides an effective, efficient, and clean way of performing this flushing operation. (See Heid Abstract)

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Fine et al. (US 4,119,402) discloses a method of detecting a compound found in a biological material which is frozen, rendered into smaller particles, and further analyzed.

Panzer et al. (US 4,554,170) discloses a method of freezing plant material for extraction of useful components by steeping in liquid carbon dioxide.

Sallavanti et al. (US 4,846,408) discloses a method of preparing a material by cooling to make brittle and subsequent mechanical processing whereby the material is rendered into smaller particles.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JONATHAN M. HURST whose telephone number is (571)270-7065. The examiner can normally be reached on Mon. - Thurs. 6:30-5:00; Every Fri. off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Basia Ridley can be reached on (571)272-1453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. M. H./

Examiner, Art Unit 4153

/Basia Ridley/
Supervisory Patent Examiner, Art Unit 4153